

# Getting to the bottom of anti-vaccine attitudes

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A study that helps explain why anti-vaccine attitudes still persist, despite clear evidence on the benefits of immunization to public health has been selected by an international scientific committee to be given the Atlas

award. The survey findings, published in *Social Science & Medicine*, clearly show the Dunning-Kruger effect at play and demonstrate that people who lack expertise fail to recognize their own lack of knowledge.

"One reason for Dunning-Kruger effects is that people don't know what they don't know," said Matthew Motta, Postdoctoral fellow at the Annenberg Public Policy Center at the University of Pennsylvania, Philadelphia, PA, USA. "Another reason may be that people are misinformed, believing something that the experts recognize as being untrue."

To explore the Dunning-Kruger effect and its role in anti-vaccine ("anti-vax") attitudes towards mandatory vaccination policies, and the causes of autism in the new study, Dr. Motta and colleagues, including Timothy Callaghan, Assistant Professor of Public Health at Texas A & M University, and Steven Sylvester, Assistant Professor of Public Policy at Utah Valley University, surveyed more than 1,300 American adults. Study participants were asked to take a quiz testing their knowledge about the causes of autism. They were also asked to assess their own knowledge and the knowledge of experts.

The [survey results](#) showed that more than a third of [study participants](#) (36 percent) believe they knew as much as, or more, than medical doctors and scientists about the causes of autism. While many respondents indicated trust in experts, they also placed high levels of trust in non-experts and the role of non-experts in setting policy.

The survey also found that those with the fewest correct answers on the quiz about the possible causes of autism showed the highest levels of overconfidence in their own knowledge. As reported in the study, "moving from low to high levels of autism knowledge was associated with a 39 percent decrease in overconfidence." Those who know the least are the most confident about their own knowledge.

Dr. Motta's team went on to show that this overconfidence has consequences when it comes to policy attitudes: those with the least amount of [knowledge](#) about [autism](#) and the most overconfidence were also less likely to support pro-vaccine policies. They were also more likely to elevate the role of non-experts in setting such policies.

The findings "add needed complexity" to understanding what's behind [anti-vax](#) attitudes, the researchers say. They may also point to approaches to help encourage greater support for vaccines, with important implications for [public health](#).

In addition to offering people needed information, Dr. Motta added that the findings highlight the importance of combatting misinformation about vaccines. What that might look like will be the subject of further studies. "That's the key question: how can we combat misinformation about vaccines?"

The article is "Knowing less but presuming more: Dunning-Kruger effects and the endorsement of anti-vaccine [policy](#) attitudes." It appears in *Social Science & Medicine*.

**More information:** Matthew Motta et al. Knowing less but presuming more: Dunning-Kruger effects and the endorsement of anti-vaccine policy attitudes, *Social Science & Medicine* (2018). [DOI: 10.1016/j.socscimed.2018.06.032](#)

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